

including innumerable things of less importance which the college student or general reader is sure to desire to know. While Dr. Vines' book lacks this somewhat encyclopedic character, it treats more elaborately the larger topics, and in a way suited only to advanced students. It therefore supplements its predecessor in such a way that no one can do without either.

## NOTES AND NEWS.

PROFESSOR C. R. BARNES has returned from Cambridge to the duties of his professorship in Purdue University, Ind.

THREE NUMBERS of Cooke's British Desmids are now issued. This work forms a continuation of the author's British Fresh-water Algæ.

REV. J. M. CROMBIE begins an Index Lichenum Britannicorum in the last number of *Grevillea*, after the most recent Nylanderian arrangement.

DR. MAXWELL MASTER'S "Vegetable Teratology" has been translated into German by Mr. Udo Dammer, and published by Hässel, of Leipzig. Additional notes and wood cuts have been added.

MR. FREDERICK LEROY SARGENT has accepted the Chair of Botany in the University of Wisconsin, at Madison, which was resigned by Prof. A. B. Seymour. Mr. Sargent has already entered upon his duties.

MR. HARVEY THOMSON, for several years Professor Coulter's assistant, has accepted the professorship of botany in Hastings College, Hastings, Nebraska. His position at Wabash College has been filled by Mr. J. N. Rose.

THE ADDRESS of Mr. Carruthers, president of the biological section of the British Association at the recent Birmingham meeting, dealt with the past history of those plants which still form a portion of the existing flora.

PROF. C. S. SARGENT writes that there should be added to the published list of Dr. Engelmann's publications (BOTANICAL GAZETTE, May, 1884) his paper on "The Genus Euphorbia in DeCandolle's Prodrômus", *Am. Jour. Sci.* II, xxxiv, 288-291.

THE COMMON stink horn (Phallus) sometimes becomes very obnoxious when growing near dwellings. W. G. Smith, in the *Gardeners' Chronicle*, recommends trying a strong solution of carbolic acid to destroy the fungus and prevent its starting again.

CYPRIPEDIUM ARIETINUM in the mountains of China is a notable addition to an already very considerable list of disjoined species, divided between E. North America and E. Asia. It is announced by M. Franchet in *Bull. Soc. Bot. de France*, xxxiii, 206.

THE SEASON of 1885 in Nebraska and Iowa gave a heavy crop of the cluster-cup on green ash, *Æcidium Fraxini*, but the trees are almost free from it the present year. A query as to the cause of this unexpected change is raised by Professor Bessey in the last *American Naturalist*.

THE NAVAJO names of plants are treated of in an entertaining article by Dr. W. Matthews in the September *American Naturalist*. The list comprises about one hundred species, including many small or inconspicuous kinds, which it is surprising the Indians should have names for.

MR. ERWIN F. SMITH, recently assistant in the botanical laboratory of the University of Michigan, has received the appointment as assistant in the mycological section of the U. S. Department of Agriculture. He will first take up the study of the *Fusicladium* and *Morthiera* of fruit trees.

DR. HENRY LESLIE OSBORN, professor of Zoölogy in Purdue University, has undertaken the editorship of the *American Monthly Microscopical Journal* during the absence of Mr. Hitchcock in Japan. Dr. Osborn is an expert in histological manipulation, and looks upon the microscope in the true light as a *means* and not the *end*. This means that the *Journal* will be ably edited, and with special reference to *useful* work with the microscope.

C. H. STOWELL has severed his connection with the *Microscope*. The August number contains his valedictory, and also a most uncalled for and ungentlemanly attack upon the *Am. Mo. Microscopical Journal*, and particularly its editor, Mr. Romyn Hitchcock. No private quarrel could justify such public insolence.

THE "HERBARIUM HEUFLERIANUM" of cryptogams is for sale, on account of the death of the owner. It contains 1,431 genera, 8,614 species, and about 30,400 specimens, including many type specimens. Further information can be obtained by addressing Paul Baron Hohenbühel, Innsbruck, Universitätsstr. No. 3, Tirol, Austro-Hungary.

MR. ERNEST FREUND, of Vienna, claims to have found cellulose in the human blood and organs in tuberculous disease, and concludes that cellulose is a typical constituent of tubercles and of the blood in tuberculosis. Heretofore the occurrence of cellulose in animal tissues was thought to be restricted to a few invertebrate families.

A REVISION of the Phalloids, or stink horn fungi, has recently been made by Dr. Fischer in which eleven genera and seventy-three species are recognized. The old genus Phallus is discarded. About a dozen species are recorded from North America, four from Europe, and seven from Asia. They are most numerous in the southern hemisphere.

IN THE LAST Bulletin of the Buffalo Society of Natural Sciences, Vol. V, No. 2, Mr. David F. Day gives a list of additions to his excellent catalogue of Buffalo plants. The Naturalists' Field Club of that city is an exceedingly active organization, and it would seem strange if any plants escaped them. About 125 species are included in these additions.

THE METHOD used by Dr. A. F. W. Schimper to study the distribution of starch in leaves is to first place them in alcohol from twelve to twenty-four hours, then transfer to an iodized solution of chloral hydrate, eight parts of chloral to five of water. By this means the leaves become very transparent, and the smallest grains of starch, stained blue by the iodine, are clearly visible under the microscope, even in the deepest-seated cells.

THE PRINCIPAL articles of the *Bulletin of the Torrey Club* for September are Naiadaceæ in the Torrey Herbarium, with plate, by Thomas Morong, Synopsis of the Genus Paspalum, by Geo. Vasey, Dehiscence of Fern Sporangia, by Joseph Schrenk, and Proceedings of the Botanical Club of the A. A. A. S. at Buffalo. The new species described are *Potamogeton Wrightii* Morong from the Loo Choo islands, and *Paspalum Buckleyanum* Vasey from Texas.

THE THIRD BULLETIN of the *Société Mycologique de France*, recently received, contains several papers on hymenomycetous fungi by MM. Quélet, Lucand, Forquignon, Gillot, Mougeot, Barla, and Brunaud. The other principal articles are the Role of ptomaines and leucomaines in mushroom poisoning, by Dr. L. Forquignon; Note on a case of poisoning by mushrooms, by Dr. Kuhn; and On the microscopical study of mushrooms, by M. Boudier.

MACLEOD AND MILLER have been investigating cholera during the past year in Shanghai. They found Koch's comma bacillus in twenty-five out of twenty-seven cases. The germ is destroyed by drying, but if kept moist is capable of growth after four months. The question as to whether it enters the body through inspired air or the alimentary canal finds upholders for the first position in Emmerich and Buchner, working in Sicily, for the second, Koch and the general opinion.

REMARKABLY REDUCED trichomes in some species of *Campanula* have been described by E. Heinricher in the *Berichte der deutsch. bot. Gesellschaft*. They form peculiar small plugs in about the middle of the outer walls of the epidermal cells on the upper surface of the leaves. They are covered with a thin cuticle, and often show divisions. The discovery was made in *C. persicæfolia*, but they also occur in *C. grandis* and *C. patula*, and presumably in other smooth, or nearly smooth, leaved species.

DR. MILLER, of Austria, finds that the germs of zymotic diseases are destroyed in the stomach when its reaction is acid. If, however, bacilli and bacteria are passed into the stomach before the hydrochloric acid of the gastric juice is poured out they pass on into the intestine uninjured. It has been observed that persons are more likely to be attacked by cholera when the stomach is diseased. As it is generally thought that the germs of these diseases are introduced by the alimentary canal, these observations of Dr. Miller are extremely valuable.

TWIN TREES are often recorded, and a recent account of one near Tunbridge Wells, England, brings them to mind. In the case referred to an oak and a beech have grown together so as to form a single trunk for five or six feet. In another case the old oak has a birch tree growing out of it, but the latter has evidently germinated where a branch of the oak had been broken off eight or nine feet from the ground. The birch is now six or eight inches in diameter, and its roots reach through the internally decayed oak to the ground.

A HYBRID ORCHID between *Cattleya intermedia* and *Sophronitis grandiflora*, produced by Veitch & Sons of England, has been referred by Prof. Reichenbach to the genus *Lælia*. It is quite remarkable that a hybrid should fall into a different genus from the parents, and the wonder is not much diminished, but takes on another form, when we learn that this has led Prof. Reichenbach to reexamine the characters of these genera, and with the result that he decides that all of the species but one of *Sophronitis* should be transferred to *Lælia*, including *S. grandiflora*.

M. CORNU has found by culture experiments conducted the present season (*Compt. Rendu de l'Acad.*, 1886, p. 930) that the spores of *Peridermium Pini*, var. *corticolum* sown upon *Vincetoxicum officinale* produce in about four weeks *Cronartium asclepiadeum*. It has been known since 1873 that *Coleosporium Senecionis* and *Peridermium Pini*, var. *acicolum* are alternate forms of the same fungus. It is now apparent that these two forms of *Peridermium* are really specifically distinct. This gives further evidence that we shall be unable to fully classify the pleomorphic fungi until their life histories are known.

DAVIES' SMALL WORK on the "Preparation and mounting of microscopic objects", a 16mo. of some 200 pages recently sent us by the American publishers, J. H. Vail & Co., of New York, attests its substantial character by having reached the twelfth thousand. It is now in essentially the same form as left by Mr. Matthews of the Quekett Club, who edited the second edition about twelve years ago. Although it does not describe some valuable processes which have come into use since the author's time, and is not a work for the specialist, yet it is still almost as serviceable as at the time it was published, for that considerable class of microscopists who desire to prepare a cabinet of mounted specimens of curious and interesting objects, selected from the whole vegetable and animal kingdom. The author tells in a clear and trustworthy manner how to prepare, preserve and mount such objects.

THE BOTANY of the U. S. Department of Agriculture Report for 1885, which was distributed some time ago, is of all degrees of value and accuracy. The most important thing in bacteriology is the identification of the bacterium of swine-plague, and the discrimination between this disease and the rouget, or swine-plague of Europe, studied by Pasteur. The seed and forestry divisions require no notice. The report of the superintendent of grounds gives much space to mildews, peach-leaf blister, peach yellow, pear blight, cracking of pears, potato rot, etc. The most courteous thing we can say of this is, that it is "crude, owing to want of practical knowledge"—words which we find in the report. The microscopist has a short compilation regarding edible mushrooms, illustrated with a colored plate. The botanist's report gives a brief description of a score of foreign and native medicinal plants, with cuts, and a page of notes on grasses. The remainder of it is devoted to fungous diseases of plants, contributed by the assistant botanist, together with a short account of smut in timothy by Professor Trelease, and is worthy the careful attention of cultivators and students of fungi.

THE COMMITTEE of the British Bssociation on fossil plants made an interesting report at the recent Birmingham meeting. Attention was devoted last year exclusively to phanerogams. They find that many of the so-called monocotyledons have been disproved and that that group can not boast of as great antiquity as has been claimed. The oldest monocotyledons seem referable to the *Pandanæ*, a group now distributed in widely distant and remote oceanic islands, and whose fruits are still met with at sea in drifts of vegetable matter. Very likely the *Aroideæ* have been proved to be of high antiquity. In reference to the naming of fossil plants from fragmentary material, a habit which has in some cases reached an absurdity, the committee utters a wise protest. It does appear, they say, that it would have been wiser and more consistent to have taken the absence of fruit into account, when these were such as would naturally have been preserved. The large proportion of fossil dicotyledonous leaves, that have been referred without any hesitation to living genera, must strike every one, in comparison with the relatively few associated fruits that have been determined otherwise than as *Carpolithes*, a name which is a confession of failure.